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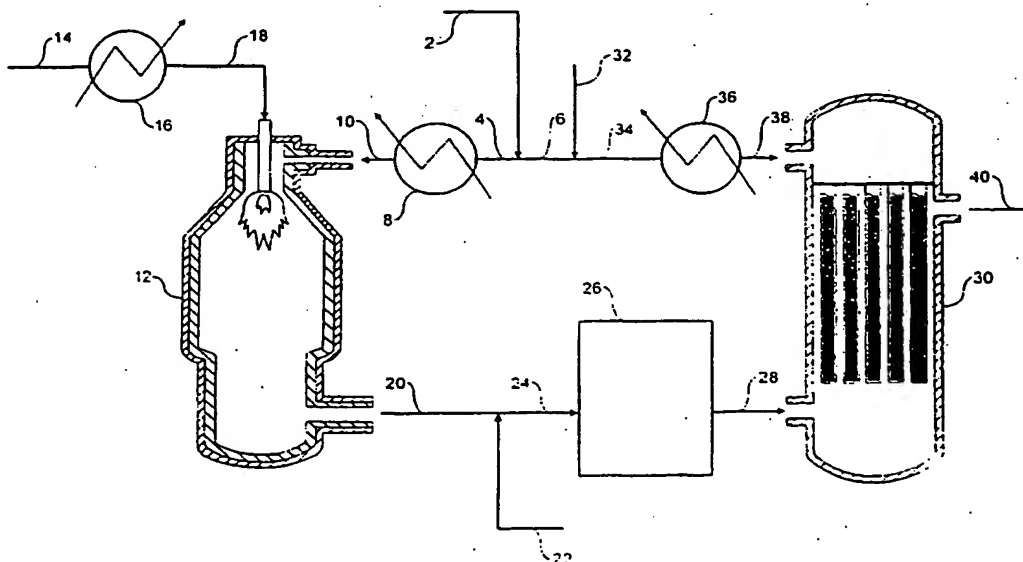
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(54) Title: A PROCESS AND APPARATUS FOR THE PRODUCTION OF SYNTHESIS GAS



(57) Abstract: Reactive diluent fluid (22) is introduced into a stream of synthesis gas (or "syngas") produced in a heat-generating unit such as a partial oxidation ("POX") reactor (12) to cool the syngas and form a mixture of cooled syngas and reactive diluent fluid. Carbon dioxide and/or carbon components and/or hydrogen in the mixture of cooled syngas and reactive diluent fluid is reacted (26) with at least a portion of the reactive diluent fluid in the mixture to produce carbon monoxide-enriched and/or solid carbon depleted syngas which is fed into a secondary reformer unit (30) such as an enhanced heat transfer reformer in a heat exchange reformer process. An advantage of the invention is that problems with the mechanical integrity of the secondary unit arising from high temperature of the syngas from the heat-generating unit are avoided.

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